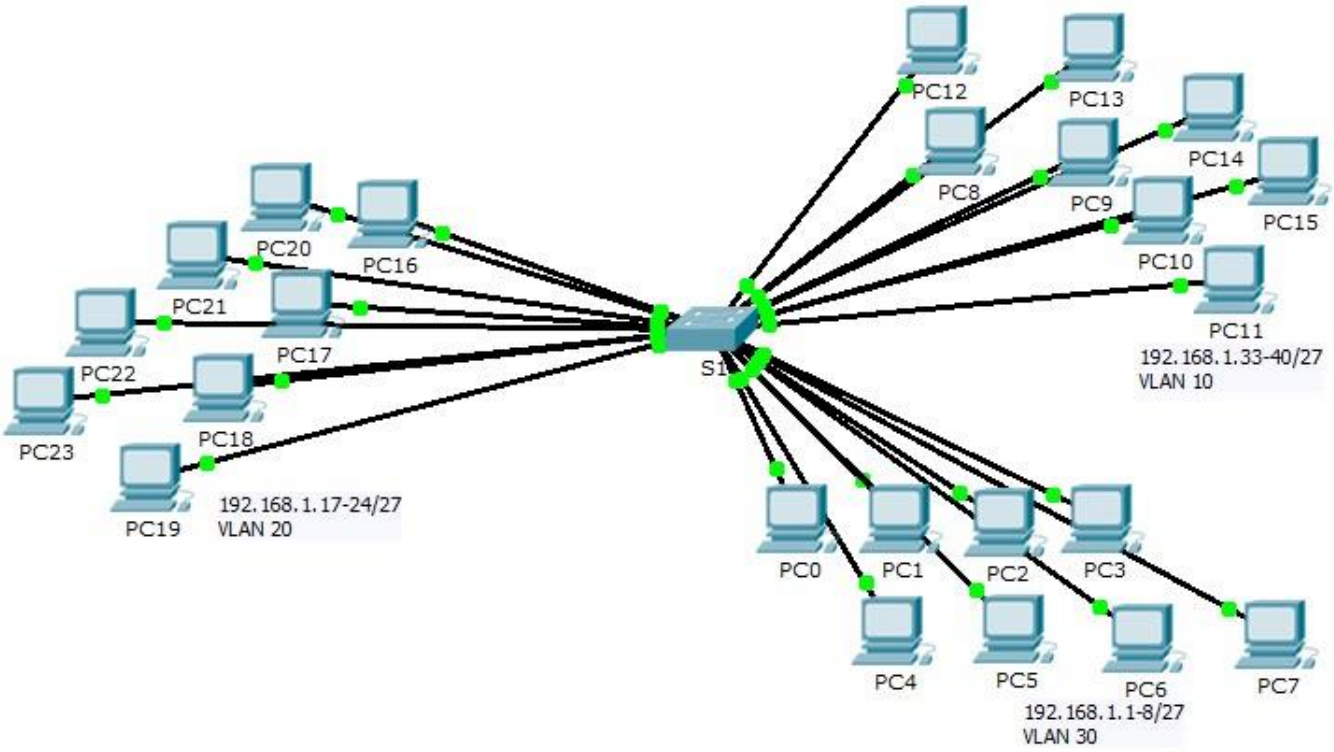
Packet Tracer – Who Hears the Broadcast?

Topology



Objectives

Part 1: Observe Broadcast Traffic in a VLAN Implementation

Part 2: Complete Review Questions

Scenario

In this activity, a 24-port Catalyst 2960 switch is fully populated. All ports are in use. You will observe broadcast traffic in a VLAN implementation and answer some reflection questions.

Part 1: Observe Broadcast Traffic in a VLAN Implementation

Step 1: Use ping to generate traffic.

a. Click **PC0** and click the **Desktop** tab> **Command Prompt**.

b. Enter the **ping 192.168.1.8** command. The ping should succeed.

Unlike a LAN, a VLAN is a broadcast domain created by switches. Using Packet Tracer **Simulation** mode, ping the end devices within their own VLAN. Based on your observation, answer the questions in Step 2.

Step 2: Generate and examine broadcast traffic.

a. Switch to **Simulation** mode.

b. Click **Edit Filters** in the Simulation Panel. Uncheck the **Show All/None** checkbox. Check the **ICMP** checkbox.

c. Click the **Add Complex PDU** tool, this is the open envelope icon on the right toolbar.

d. Float the mouse cursor over the topology and the pointer changes to an envelope with a plus (+) sign.

e. Click **PC0** to serve as the source for this test message and the **Create Complex PDU** dialog window opens. Enter the following values:

- Destination IP Address: 255.255.255.255 (broadcast address)
- Sequence Number: 1
- One Shot Time: 0

Within the PDU settings, the default for **Select Application:** is PING. What are at least 3 other applications available for use?

DNS, FINGER, HTTP

f. Click **Create PDU**. This test broadcast packet now appears in the **Simulation Panel Event List.** It also appears in the PDU List window. It is the first PDU for Scenario 0.

g. Click **Capture/Forward** twice. What happened to the packet?

Comenzó la difusión del paquete enviado por la pc, después de que está ultima enviara primero el paquete al switch.

h. Repeat this process for **PC8** and **PC16**.

Part 2: Complete Review Questions

1. If a PC in VLAN 10 sends a broadcast message, which devices receive it?

   Lo reciben todos los dispositivos que estén conectados a la vlan 10, con excepción a la PC que la mandó

2. If a PC in VLAN 20 sends a broadcast message devices receive it?

   Lo reciben todos los dispositivos que estén conectados a la vlan 10, con excepción a la PC que la mandó

3. If a PC in VLAN 30 sends a broadcast message devices receive it?

   Lo reciben todos los dispositivos que estén conectados a la vlan 10, con excepción a la PC que la mandó

4. What happens to a frame sent from a PC in VLAN 10 to a PC in VLAN 30?

   El paquete no se envía debido a que están en diferente VLAN

5. Which ports on the switch light up if a PC connected to port 11 sends a unicast message to a PC connected to port 13?

   F0/13

6. Which ports on the switch light if a PC connected to port 2 sends a unicast message to a PC connected to port 23?

   Ninguno, el paquete no se envía porque son de diferente VLAN

7. In terms of ports, what are the collision domains on the switch?

   Cada Puerto tiene su propio dominio de colisión

8. In terms of ports, what are the broadcast domains on the switch?

   Todos los Puerto conectados a la VLAN tienen su propio dominio de colisión.

Suggested Scoring Rubric

There are 10 questions worth 10 points each.